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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,395	04/01/2004	Roy C. Krohn	KRO 0131 PUS1	9594

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EXAMINER
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BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/816,395

Applicant(s)

KROHN, ROY C.

Examiner

Susan W. Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,9-19 and 22-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-19 and 22-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment and Arguments***

Claim 33 is now a duplicate of claim 12, which recites the composition of amended claim 1 and a talc.

Applicant argues that the compositions of Shaw et al are for flash evaporation and not for photocuring. This argument is not persuasive because Shaw et al teach flash evaporation for depositing the acrylate monomer on a substrate and then discloses curing the deposited layer of acrylate monomers by exposure to UV irradiation (column 5, lines 49-66). The volatile compounds that applicant discloses are volatile organic solvents. Such solvents are not taught by Shaw et al. Furthermore, Shustack specifically teaches formulations free of solvents (column 10, lines 54-60, and column 11, lines 32-36).

Applicant argues that Shustack fails to disclose the instantly claimed monomer of formula I in claim 1. This argument is not persuasive for the following reasons. Shustack discloses that the compositions comprises homologous monomers, such as tripropylene glycol diacrylate or tetraethylene glycol diacrylate, that are similar in structure and would be expected to have similar properties to monomers of formula I in the instant claims as being reactive diluents for the urethane oligomers in column 6, lines 29-34 and lines 54-57. Shaw et al is relied upon for teaching diethylene glycol di(meth)acrylate monomers in a mixture of a very low and very high viscosity material for providing a protective coating on a metal layer on a dielectric substrate. Applicant argues that the lack of disclosure of a photoinitiator verifies the differing nature between Shaw et al and the instant invention. This argument is not persuasive because it is the combination of Shustack et al and Shaw et al that is at issue. Both patentees teach acrylate-

functional UV curing compositions for coating metals, providing motivation to combine the teachings of the two references.

### ***Claim Objections***

Claim 33 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 12. Applicant is advised that should claim 12 be found allowable, claim 33 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9-11, 13-19 and 22-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shustack (5,128,387) in view of Shaw et al (5,440,446).

Shustack discloses radiation curable coating compositions for metal comprising a bulky (meth)acrylate monomer, a mixture of urethane acrylate and epoxy acrylate oligomers, an adhesion promoter, an ethylenically unsaturated monomer of the formula set forth in column 5

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wherein R<sub>2</sub> can be isobornyl or dicyclopentyl oxyethyl, waxes, other additives and a photoinitiator. See column 3, lines 56, to column 4, line 3, column 5, line 21, to column 6, line 8, line 49. Shustack teaches that the viscosity of the preferred urethane acrylated oligomer is in the range from 2800-4200 cps (column 6, lines 29-41). The viscosity of the preferred epoxy diacrylate oligomer is about 2200 cps (column 7, lines 24-40). A polyester oligomer having a viscosity from 2000-3000 cps is taught in column 8, lines 19-36. Shustack does not teach adding a monomer of formula (I) set forth in instant claim 1; however, Shustack discloses homologous monomers, such as tripropylene glycol diacrylate and tetraethylene glycol diacrylate, in column 6, lines 29-34 and lines 54-57.

Shaw et al disclose a radiation curable acrylate protective coating material for coating a metal layer on a dielectric substrate. Shaw et al teach mixing a very low and very high viscosity material to obtain compositions to be applied by flash evaporation, condensation and cured by exposure to UV radiation. One of the mixtures specifically taught is a mixture of 70% Henkel 4770 (an amine acrylate) and 30% diethylene glycol diacrylate (column 8, line 57, to column 9, line 48). Further advantages of including an amine acrylate are taught in column 9, lines 43-45. See column 6, line 19, to column 9, line 48. Shaw et al teach curing with ultraviolet radiation but do not specifically mention adding a photoinitiator. Waxes are not mentioned.

It would have been obvious to one skilled in the art at the time of the invention to employ the acrylate mixture of an amine acrylate and diethylene glycol diacrylate taught by Shaw et al or to substitute the mixture for the monomers, such as tripropylene glycol diacrylate or tetraethylene glycol diacrylate, in the acrylate materials taught by Shustack. Each of Shustack and Shaw et al teach compositions for coating metal substrates. Shustack provides motivation by

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teaching that the compositions comprise monomers homologous to diethylene glycol diacrylate, such as tripropylene glycol diacrylate or tetraethylene glycol diacrylate, in combination with the disclosed acrylated urethane oligomers. Shaw et al provide motivation by teaching that diethylene glycol diacrylate is one of ten diacrylates that can be included in the disclosed composition for forming a film over a metal layer (column 8, lines 6-43). Shaw et al provide additional motivation by teaching that diethylene glycol diacrylate can be used in combination with a higher viscosity amine acrylate to provide a mixture for UV curing on the metal substrate (column 8, line 57, to column 9, line 36). One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of providing a useful coating composition combining the advantages of the components taught by Shustack and the advantages of the components taught by Shaw et al.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6, 9-19 and 22-33 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13,15-25 and 27-30 of copending Application No. 10/703,938. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons. The claims of '938 set forth the same components as are set forth in the instant claims except that the formula of the "acrylated monomer" is not specified as in the instant claims. Claims 28-30 of '938 sets forth an ethylene glycol dicyclopentyl ether acrylate.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W. Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571 273 8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SB  
10/16/06



Susan W Berman  
Primary Examiner  
Art Unit 1711